UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/960,315 | 09/24/2001 | Robert W. Wannemacher | 12694/P66821US2 (RIID99-2 | 6514 |

7590 02/12/2004

Office of the Staff Judge Advocate
U.S Army Medical Research and Materiel Command
ATTN: MCMR-JA (Ms. Elizabeth Arwine)
504 Scott Street
Fort Detrick, MD 21702-5012

| EXAMINER | |
|---|---|
| VANDERVEGT, FRANCOIS P | |
| **ART UNIT** | **PAPER NUMBER** |
| 1644 | |

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/960,315 | WANNEMACHER ET AL. | |
| | Examiner | Art Unit | |
| | F. Pierre VanderVegt | 1644 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *05 November 2003 and 14 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *17-27 and 40-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-27 and 40-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

## DETAILED ACTION

This application is a continuation of U.S. Application Serial Number 09/523,271; which claims the benefit of the filing date of provisional application 60/124,283.

Claims 1-16 and 28-39 have been canceled.

New claims 40-46 have been added.

Claims 17-27 and 40-46 are currently pending.

### *Election/Restrictions*

1. Applicant's election without traverse of Group I, claims 17-27, in the Paper filed October 14, 2003 is acknowledged. Newly added claims 40-46 read upon the invention of Group I and will be included therewith for examination. It is noted that non-elected claims 28-39 have been canceled by Applicant.

Accordingly, **claims 17-27 and 40-46 are the subject of examination** in the present Office Action.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 17-24, 26-27 and 40-46 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a NEW MATTER rejection.

Base claim 17 recites the limitation "method of inducing a mean ELISA antibody titer of about 1 x $10^2$ against ricin toxin or more in a subject." Claims 17-27 are not original claims, rather they were added by the amendment filed September 24, 2001, even date with the filing of the application. The specification or claims as originally filed (claims 1-16) do not disclose a method of immunizing a subject in order to induce a particular titer of antibodies by a particular test method. Accordingly, the recitation constitutes new matter and must be removed.

Claims 19, 26 and 41 each recite the limitation that the "deglycosylated ricin A-chain is incompletely deglycosylated." This limitation is not disclosed by the specification or claims as originally filed. The specification teaches only that the chemical deglycosylation of ricin A-chain can yield a level of deglycosylation that is dependent upon the length of time that Ricin A-chain is incubated with the deglycosylating agent (page 7, line 17 to page 8, line 5 for example), the specification does not disclose that the level of deglycosylation was a controlled variable in any of the examples or disclosed embodiments of the invention. Rather, the specification discloses that deglycosylated ricin A chain can be produced by molecular methods recombinantly produced (non-glycosylated) ricin A-chain can be used in the practice of the disclosed embodiments (page 8, line 28 to page 9, line 34, for example). Accordingly, the recitation constitutes new matter and must be removed.

Claim 22 recites the limitation that "the immunogenic amount is about 0.1 μg to about 10.0 μg per about 20 g to about 25 g of the weight of the subject." This limitation is not disclosed by the specification or claims as originally filed. Example 2 of the specification discloses that mice of about 20-25 grams body weight were administered 0.625, 1.25, 2.5, 5 or 10 μg deglycosylated ricin A-chain per injection, but the claimed range of about 0.1 μg to about 10.0 μg per about 20 g to about 25 g of the weight of the subject is not disclosed. The only ranges disclosed in the specification are found at page 12, lines 12-33 and are expressed as μg per kg of the body weight of the subject. Accordingly, the recitation constitutes new matter and must be removed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 17-24 and 40-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Base claim 17 recites the limitation "method of inducing a mean ELISA antibody titer of about 1 x $10^2$ against ricin toxin or more in a subject." However, the claim does not disclose the units of measurement for the titer. Is the measurement in terms of mg of antibody per ml or liter of serum or is the measurement in mg of antibody per kg of body weight of the subject.

In addition, the recitation of "antibody titer of about 1 x $10^2$ against ricin toxin or more" is ambiguous and unclear in that it is unclear whether the desired titer is about 1 x $10^2$ or greater against

ricin toxin or whether the titer of 1 x $10^2$ is intended to reflect on ricin toxin and additional toxins. Clarification is required.

Applicant should specifically point out the support for any amendments made to the disclosure. See MPEP 714.02 and 2163.06

4. **For examination purposes with respect to the prior art, the following is noted:**

It is noted that claims 18, 25-27 and 42 recite that the deglycosylated ricin A-chain is "chemically deglycosylated." However, the specification discloses only that in chemically deglycosylated ricin A-chain, the level of deglycosylation is dependent upon the length of time that Ricin A-chain is incubated with the deglycosylating agent (page 7, line 17 to page 8, line 5 for example). Accordingly the definition of chemically deglycosylated ricin A-chain includes any degree of deglycosylation of the ricin A-chain up to and including complete lack of mannose and fructose residues and "deglycosylated ricin A chain" is interpreted to include any ricin A chain lacking glycosylation. The specification further discloses on page 8, line 28-29, for example, that deglycosylated ricin A chain can be produced by molecular methods. It was well known in the art at the time the invention was made that recombinant expression in bacterial systems results in proteins which lack glycosylation. For example, Wawrzynczak et al. (Int. J. Cancer [1991] 47:130-135; U on form PTO-892) discloses that recombinantly produced ricin A chain is a form of deglycosylated ricin A chain (page 132, last sentence first partial paragraph). Accordingly, there is no structural difference between what is encompassed by the recitation of "chemically deglycosylated" ricin A-chain and recombinant ricin A-chain. When a claim recites using an old composition or structure (e.g. deglycosylated ricin A chain) and the use is directed to a result or property of that composition or structure (e.g., immunogenicity), then the claim is anticipated. See MPEP 2112.02.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 17, 18, 21-25, 40 and 42-46 are rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 5,453,271 to Lemley et al (A on form PTO-892).

The '271 patent teaches a vaccine against ricin toxin (see entire reference). In particular, the '271 patent claims a method of immunizing a mammal against the effects of aerosol ricin toxin by administering a composition comprising an antigenic effective amount of (i.e., immunogenic) ricin A chain (RTA) in a pharmaceutically acceptable carrier (see especially claim 1). The'271 patent teaches that recombinant RTA can be used in the methods of the invention, including RTA produced in *E. coli* (which is a deglycosylated ricin A chain; column 4, lines 27-30 in particular). Accordingly, the'271 patent teaches and claims a vaccine against ricin intoxication in the form of an immunogenic composition of deglycosylated RTA in a pharmaceutically acceptable carrier. The inclusion of adjuvants in this composition is also taught (column 2, line 20)[claims 24 and 46]. Furthermore, the '271 patent teaches a dosage of 5μg per mouse (column 4, line 1), which is within the recited range of 0.1 - 10 μg per 20-25 grams body weight of the subject [claim 22] and three injections at two week intervals [claims 25, 44 and 45].

While the '271 patent is silent regarding the titer of antibodies to RTA as determined by ELISA [claims 17, 18 and 21-24], silence about a property does not necessarily constitute its absence. The office does not have the facilities and resources to provide the factual evidence needed in order to establish that there is a difference between the materials, i.e., that the claims are directed to new materials and that such a difference would have been considered unexpected by one of ordinary skill in the art, that is, the claimed subject matter, if new, is unobvious. In the absence of evidence to the contrary, the burden is on the Applicant to prove that the claimed materials are different from those taught by the prior art and to establish patentable differences. See In re Best 562F.2d 1252, 195 USPQ 430 (CCPA 1977) and Ex parte Gray 10 USPQ 2d 1922 (PTO Bd. Pat. App. & Int. 1989).

The prior art teaching anticipates the claimed invention.

***Conclusion***

6. No claim is allowed.

7. A copy of the Wawrzynczak et al. reference (U on form PTO-892) is not included with this Office Action because the reference was provided by Applicant as part of the Information Disclosure Statement filed in parent U.S. Application Serial Number 09/523,271.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to F. Pierre VanderVegt whose telephone number is (571)272-0852. The examiner can

normally be reached on M-Th 6:30-4:00; Alternate Fridays 6:30-3:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached at (571) 272-0841.Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center number is (703) 305-3014. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

F. Pierre VanderVegt, Ph.D.
Patent Examiner
February 2, 2004

PATRICK J. NOLAN, PH.D.
PRIMARY EXAMINER
2/5/04